

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



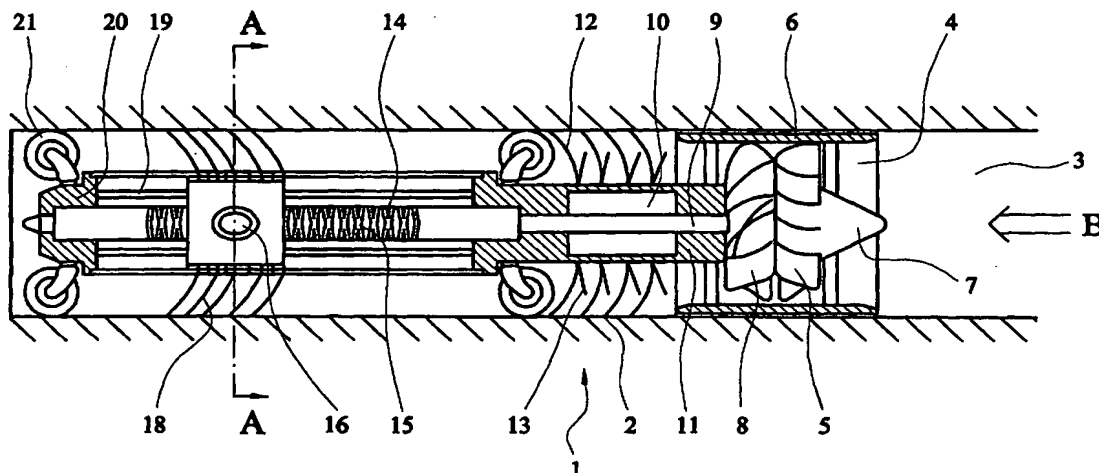
(43) International Publication Date
10 June 2004 (10.06.2004)

PCT

(10) International Publication Number
WO 2004/048842 A1

- (51) International Patent Classification⁷: **F16L 55/34**, 55/38
- (21) International Application Number:
PCT/GB2003/005036
- (22) International Filing Date:
18 November 2003 (18.11.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
0227395.1 23 November 2002 (23.11.2002) GB
- (71) Applicant (for all designated States except US): **UNIVERSITY OF DURHAM** [GB/GB]; Old Shire Hall, Old Elvet, Durham DH1 3HP (GB).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): **APPLETON, Ernest** [GB/GB]; 9 Dunelm Court, South Street, Durham DH1 4QX (GB).
- (74) Agent: **VINSOME, Rex, Martin**; Urquhart-Dykes & Lord, St Nicholas Chambers, Amen Corner, Newcastle-upon-Tyne, NE1 1PE (GB).
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:
— with international search report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: BI-DIRECTIONAL CONDUIT TRAVERSING VEHICLE



(57) **Abstract:** A vehicle (1) for travelling along a conduit (2) such as a pipeline having fluid flowing therein is disclosed. The vehicle comprises a first body carrying a first set of retractable bristles (12) for engaging an internal wall of the conduit such that the bristles resist movement of the first body in a first direction more than in a second direction, and a second set of retractable bristles (13) for engaging the internal wall of the conduit such that the bristles resist movement of the first body in the second direction more than in the first direction. A thread follower (16) carries a third set of resilient bristles (18) for engaging the internal wall of the conduit such that the bristles resist movement of the thread follower in the first direction more than in the second direction. A turbine (5) is actuated by fluid flow in the conduit to cause rotation of a reverse traverse screw (14) to move the first body and thread follower towards and away from each other. The first (12) and second (13) bristles are stiffer than the third bristles (18).

WO 2004/048842 A1